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ORIGINAL ARTICLES.

Typhoid Fever.

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Typhoid fever is an infectious disease, and is due to the introduction into the system of a specific poison.

Various theories have in times past been held as to its cause, but at present the nature of the poison originating the disease is supposed to be a vegetable germ and not a chemical poison, and that its development requires a certain preparatory stage for the germ as well as a condition of system suitable for its growth and results.

It is now generally accepted that a bacilli (separated by Koch and Ebert) is the cause of the disease. Some discredit has been thrown on this view of the origin of typhoid fever, from the fact that pathologists have swallowed some of the bacilli when fresh and the disease has not been produced, but in the same manner the comma bacillus or cholera germ has acted, as both seem to need a *vidus* or bed and a little time for their development; that is, after the escape of the germ by the dejections a suitable pabulum is required for its incubation or development, when, if the microbe is swallowed, the usual train of symptoms follow denoting the development of the fever.

Pathologists tell us, also, that the symptoms produced are as a direct consequence of the ptomaines or chemical poison produced by the bacillus. The typhoid poison is developed in the system during the course of the fever, and probably the only escape for the germ is through the discharges from the intestines. Accepting this as a fact, great care should be taken to destroy all alvine evacuations, for, as before mentioned, their retention, warmth and fermentation in secluded discharges intensify the poison.

I do not wish to enter into a detailed statement as to the manner many of us have seen the disease propagated, but probably all have noticed it spread from a common center. When it is fully developed in one person, unless great care and cleanliness is exercised, especially with the discharges mentioned, the fever is apt to spread to other persons.

It is not believed that the breath or perspiration can convey the disease, but that it is transmitted in the manner before mentioned, viz.: by the escape of the bacilli from the intestines, their complete development after a certain period of time, and a lodgment of the germ again in the system of another person that is predisposed to the influence of the poison.

The disease is not difficult of diagnosis except at its onset, and for convenience of description is usually divided into three clinical periods of one week each, which seem to correspond to the different pathological conditions noticed in the intestines, viz.: first infiltration and congestion, next ulceration of the agminate and solitary glands, followed by healing of the same. The more severe the disease the greater the destruction found in the intestines, sometimes amounting to ulceration and perforation.

The pathological condition is not confined to the bowels, but probably begins in the blood, for in fatal cases congestions have been observed in the spleen, and granular degeneration of the liver and kidneys as well as diseased conditions of other organs.

There are two critical days in typhoid

fever, the ninth and the fourteenth, sudden death frequently occurring on the ninth and sometimes on the fourteenth, probably from hyperexia or from perforation or other cause, and when these days are past and no rise of temperature occurs a favorable termination may be expected.

Symptoms.—The invasion of the fever is slow and not of an alarming character, probably a little frontal headache with loss of appetite, depression and weakness, with chilliness. Each day these symptoms become worse, the pulse becomes accelerated, the temperature rises, and at this time, although the disease may not with positiveness be diagnosed, yet a static or sluggish condition of the circulation exists, noticeable in the face and elsewhere, which can be observed by pressing the point of finger on the skin and noting that the blood returns very slowly when pressure is removed; that the patient is heavy and oppressed, and if some tenderness exists in right iliac fossa it can be inferred with some degree of certainty that we have a case of typhoid fever to deal with.

As the days go on each symptom is intensified, the heaviness passes into a stupor, flies will alight unnoticed on the eyelids, and the circulation is more feeble and obstructed.

The temperature rises in the evening and falls in the morning with great regularity after the fourth day, frequently reaching 104°.

The rapidity of the pulse will be fully established at from 100 to 120 by the sixth day, and all symptoms mentioned will continue until about the sixteenth day when, in a case that is doing well, a decline in the rapidity of the pulse will be noticed, as well as a greater variation of the evening and morning temperature. Sometimes the pulse remains preternaturally high after the decline of the fever, but only when much weakness has resulted or the disease of the bowels continues.

The tongue is usually not heavily coated, but has a tight close coat or fur that extends almost to the tip; it may be unduly red and sometimes glazed and dry. Sordes gather on the lips and teeth and the breathing is quickened. The skin is usually dry (although at times moist), and if the hand is laid flat on the patient's abdomen or breast, a peculiar biting or stinging sensation is imparted thereto that is very noticeable in this fever.

About the end of the first week occurs the only pathognomonic sign of the fever, viz.: a rose rash consisting of small red spots similar to ordinary pimples, scattered here and there over the body, but usually most marked on the chest. The rash may last for two or three weeks, but the life of each individual spot is from three to four days, and the greater the number of spots noticed the more favorable the prognosis in the case. These spots must not be confounded with a blush or red rash that sometimes precedes them, or the profuse miliary or vesicular or watery rash that occur in this as well as other severe fevers.

Epistaxis is also a frequent complication, and sometimes hemorrhages from the bowels or other parts. This tendency to bleeding is present frequently enough to be called one of the symptoms of the fever.

Another troublesome attendant is diarrhea. The disease has been known to commence with this symptom, and to have it prove troublesome all the way through. The abdomen becomes tympanitic in consequence of the relaxation and distension, and a gurgling sound will be frequently found in the right iliac fossa, with tenderness on palpation. Great care should be taken in the later course of the disease to handle this portion of the abdomen tenderly, as rupture of the bowel has been caused by rough handling or pressure.

The urine is scanty at first and albuminuria is frequently noticed in the third week sometimes attended with hematuria.

The loss of weight during an attack of typhoid fever is remarkable, frequently being a pound a day for three weeks. The effects of the disease centering in the intestines and consequent impaired nutrition accounts for this, and indicates to us a condition to remedy in treatment.

The mortality from typhoid fever is on an

average about 20 per cent., but seems to vary with the locality and season, ranging from 10 to 32 per cent.

The cause of death is sometimes the direct severity of the disease, bringing about a fatal result through the brain by coma or at the heart by asthenia, or from the intensity of the fever.

Sometimes the complications produce death, as perforation of the intestine, the perforation being almost always in the ilium within a foot or two of the valve.

Peritonitis is also another complication that is frequently fatal as well as hemorrhage. Other complications exist at times as congestions in the spleen and in the lungs, but are not necessarily fatal.

A positive prognosis should not be attempted in cases of typhoid fever, yet where the temperature runs above 105½° many fatal cases occur, and where the temperature reaches 106½° almost all are fatal. This furnishes us another indication in treatmeht. If a cold bath or sponging will lower the temperature, or quinia act as an antipyretic, it is a favorable omen. Individuals also differ as to the extent the pyrexia is injurious to them. The other symptoms denoting favorable results have been already mentioned, as an abundant rash and passing the critical days with no increase in the intensity of the symptoms as shown by pulse and temperature.

Sequellæ.—It has been believed by many that a person having had typhoid fever and recovering fully, apparently is liable and in most instances does develop a tuberculosis. As no cause can be given for this except the debility produced by the fever, observations have been made and no resulting tuberculosis discovered except in those already tainted or predisposed to the disease.

Mania has also resulted, but the principal effect is a weak and debilitated state or a marasmus from the injury inflicted on the intestines.

The management of the fever resolves itself into two divisions, viz.: that of treating the fever so that a successful termination may result, and preventing others from taking it who are of necessity compelled to be with it.

At the beginning of the disease the patient shonld be kept free from both bodily and mental strain while any elevation of temperature is noticed. He should be placed in bed in a large airy room that can be ventilated without draughts although it is believed that a person is incapable of catching cold while the temperature is above normal. The next matter of great importance is the diet. This should consist of liquid food throughout the whole course of the disease. Water can be taken frequently if needed, or asked for. Milk is probably the most natural and convenient food and can be given in two or three or even four pints a day, but observations should be made that the casein does not pass undigested in the stools nor remain in masses in the stomach. If so, predigested foods and carbo-hydrates and animal broths and beef tea can be given, although beef tea has been charged with increasing the diarrhea and of being not a food but a stimulant.

Sometimes a patient will ask for water, when the nurse will hold a cup of milk to his mouth. This is wrong, as water is very refreshing to the patient, and while feeding is required the tendency of late has been to overfeeding all fevers. Feeding should be at regular intervals with about the same quantity of nourishment each time.

Another refreshing treatment consists of sponging with tepid water, or the temperature of the water can be varied some to suit the feelings of the patient. When heat or restlessness is noticed the sponge bath will have a quieting effect, and will frequently produce a refreshing sleep. This bath while an antipyretic is only useful as such when the fever is at the high temperatures of 103° and upward, as a moderate degree of fever is necessary to assist in the destruction of the poison, and is only dangerous when the temperature exceeds 104°.

The bath undoubtedly has a good effect aside from its antipyretic action in softening and cleansing the skin, freeing its pores and allaying thirst.

A sponge bath morning and evening is usually beneficial, but the use of additional

baths should be governed by the amount of heat and restlessness.

Quinia in a few large doses has at times a decided antipyretic effect as an adjunct to the baths.

Alcohol in the form of whisky or wine is useful in the treatment of the disease, but its indiscriminate administration should be forbidden. In the early stages of the disease none is usually needed except in persons addicted to its use; but at the end of the first week and thereafter it is usually of great benefit, wine taking the place of fruit which would be apt to produce diarrhea, and sustaining the flagging energies also.

It is at times imperatively demanded, as when the tongue is dry and red and sordes covering the teeth.

Should the tongue be very red, dry or cracked, a few drops of turpentine in emulsion will soon cause a softening of the same and also seems to have a good effect in lessening the tumid abdomen.

The diarrhea can be controlled by astringents, as tannin, and particular attention to diet, if excessive. Opium can be used in connection.

Expectant treatment, or rather particular treatment, should be used for each complication as it arises. For perforation, peritonitis, tympanitis and restlessness where it cannot be controlled by sponging, opium is to be used, in commensurate doses for each indication, a large dose being required in threatened perforation to arrest the peristaltic action, and give a chance for adhesive inflammation. Pneumonia is benefited by quinia in repeated doses.

The abortive treatment of typhoid fever so far has not been a success, although some cases spontaneously subsiding at the end of the second week would lead us to believe that the disease might possibly be aborted. Calomel has been given in three or four doses of 8 to 10 grains each, administered in succession within twenty-four hours, at an early period of the fever, and in a few instances seems to have cut short the disease. When a line of therapeutics has been found that will cut short the disease, it will probably be discovered that it is done by aiding the natural antitoxic action of the liver, which usually has the power of destroying all toxic materials manufactured in the intestines, they being absorbed and passed through the portal vein to the liver, which separates and excretes the poison through the medium of its cells.

The prophylaxis should be extreme cleanliness, destruction of the dejections and the employment of attendants of persons of mature age, who are not so liable to an attack of the fever. I will also state that from observation I have noticed that persons who are in the habit of smoking tobacco are not so liable to the fever. Since my observation in this particular I have had but one case of a smoker, and that of a person who smoked an occasional cigarette. I could mention numerous instances where the only persons escaping were those who were in the habit of smoking; and in particular one young man who nursed his parents and eight brothers and sisters through a severe form of the disease who openly attributed his escape to the use of the pipe. If there is any preventive action in tobacco (which I firmly believe) I call it to your attention for observation, and would suggest the fumigation of houses and other places where the bacilli are apt to find lodgment, as being a proper way to prevent a spread of the dis- by a destruction of the poison.

A pure water supply with the other measures mentioned will also stop the spread of the disease.

The new typho serum recently reported by Behring is also being experimented with; at present results unknown but supposed to be antidotal.

As typhoid fever truly belongs to the exanthamata it is extremely problematical whether it occurs in its true form the second time in the same individual, at least oftener than other diseases of the same class.

In conclusion will say that we as physicians should be true humanitarians and endeavor to exercise as much zeal in preventing the occurrence of this dangerous disease as to carry a battle with it to a successful issue when it has once attacked an individual.

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Topeka, Kansas, Saturday, Dec. 15, 1894.

Legislative Work.

The legislative committee appointed by the convention last May met in the office of Dr. Dykes Thursday evening December 13. The chairman reported that only $25 had been received with which to defray the expenses of the work, and suggested that some means be devised by which funds might be raised; also suggested that in order to facilitate the work a subcommittee of three should be appointed to act with him, the chairman, in such matters as might arise. On motion it was decided that such a committee should be appointed, and it consist of one Regular, one Eclectic and one Homeopath, each to be selected by the members of the legislative committee representing their schools. Dr. Menninger and Dr. Wall were appointed as two of the committee and the third to be reported later by the Eclectic members.

Dr. Pohek suggested that in order to raise funds an organization should be formed to be known as the Kansas Physicians' Association, and the membership fee should be $2, for which a certificate would be furnished each member. The plan was favorably discussed and adopted.

The chairman stated that the bill as agreed upon by the convention was unconstitutional in that it takes no cognizance of the present medical law. Physicians who have complied with the present law could not be debarred from practice by any additional restrictions provided by a new law. This criticism has been made by numerous physicians and attorneys, and in order for the bill to pass some alteration must be made. By motion the committee was authorized to make such changes as may seem best after consultation with attorneys.

Many suggestions were made by various members of the committee as to the proposed changes but no definite action was taken.

The Kansas Physicians' Association.

This association was organized for the purpose of assisting the legislative committee. It is to be a general association and embrace every physician in the State who is in favor of medical legislation and willing to assist in securing it. The membership fee will be $2, and to every member a certificate will be given. The following officers were elected: Dr. Pohek, president, Dr. Menninger, secretary, and Dr. Furber, treasurer. The funds collected from membership fees are to be deposited in the Merchants' National Bank subject to the order of the president and secretary of the legislative committee appointed at the May convention. The president, secretary and treasurer were appointed a legislative committee. Certificates will at once be prepared and sent to physicians in each county who will be requested to solicit physicians in his county to

join the association and especially to pay the membership fee.

It is needless to add that at present this association has no other object than that of collecting $2 from as many physicians as possible to be used in legislative work.

It seems to us that it would have added much to the importance of this association and greatly aided in the attainment of its object if it could have absorbed the legislative committee and the work supposed to be done by that committee as an independent body be delegated to this new organization.

Important.

We wish to call attention to the offer we are making our subscribers. We will furnish the JOURNAL for one year and a copy of "Helbing's Modern Materia Medica" for $2.50. The price of the book is $2, and it is worth every cent of it. It is the only work published that will give you information on all the new remedies in the market.

Success.

Success is the goal which all physicians try to reach, but there is a vast difference in the ideas of what success is. To one it means a lucrative practice from which a good share of wealth may be accumulated. To another it means the patronage of the elite, the social distinction of the rich man's doctor. To yet another man success means an accumulated wealth of knowledge and the ability to apply that knowledge in the most scientific way to the relief of human suffering. If you ask how to become a successful practitioner you must first define your idea of success. It is not impossible that one may combine the elements of the three, and he may have a lucrative practice, social distinction and scientific ability; but to every man one of these alone is the most desirable, and the attainment of that is his idea of success.

Resuscitation After Chloroform.

Dr. C. A. Rice, in the *Louisville Medical Monthly*, reports a case of resuscitation after apparent death from chloroform. Several hours after respiration and heart action had entirely ceased tracheotomy was performed, and the lungs inflated, and after several hours of persistent artificial respiration heart action was restored and the patient recovered. It is a remarkable case, and it certainly will give encouragement to those so unfortunate as to have chloroform accidents.

Legislation Against Syphilis.

Dr. F. C. Maine, in the *American Medico-Surgical Bulletin*, says he has commenced definite action toward securing legislation that shall require of every member of the medical profession, every druggist and every other person who shall have brought to his notice any case of syphilis, that he shall at once report each case to the proper medical authorities, who shall keep a proper record thereof. Any legislative procedure which will tend to prevent the spread of syphilis will certainly be welcomed with euthusiasm.

Topeka Academy of Medicine and Surgery.

The Topeka Academy of Medicine and Surgery met in regular session at A. O. U. W. hall Monday, December 10, at 8 o'clock P.M., and was called to order by the president.

Present: Drs. Stewart, Munn, Minney, Mulvane, Sheldon, Mitchell, Pelton, Cannon, Wehe, Righter, R. E. McVey, Alkire, Barnes, McCrea, McGuire, Magee, Teft and Eastman.

Owing to the absence of the secretary Dr. Eastman was appointed secretary *pro tem.*

Drs. Stewart, Minney and Pelton, censors, reported recommending for admission Dr. Cockey, of University of Maryland, who was elected to membership.

The president, Dr. Magee, read a paper upon "Retrospective and Prospective Medicine." The paper pointed out the need of sanitary work, the necessity of a medical practice law, the importance of higher medical education, and the benefits to be derived from active membership in medical societies.

The standing committees were appointed by the President as follows:

On Hall and Finances—Drs. W. S. Lindsay, W. E. McVey, Harriet Adams.

On Constitution and By-Laws—Drs. S. E. Sheldon, T. W. Peers, J. H. Cannon.

Board of Censors—Drs. L. H. Munn, D. R. Pelton, B. D. Eastman.

On Program—Drs. R. S. Magee, L. M. Powell, W. S. Lindsay.

The subject for the evening, "Diphtheria," was then taken up.

Dr. Alkire described the anatomy of the parts usually involved in diphtheria, and illustrated his remarks by a colored drawing.

Dr. Pelton discussed the pathology and morbid anatomy. He said two theories of the production of diphtheria had been advanced: First, the invasion by septic bacteria followed by inflammation and toxæmia from ptomaines; second, the beginning by local inflammation followed by toxæmia and bacteria. In many cases he had observed that constitutional disturbances preceded local manifestations, the sequence being constitutional infection, local stasis and formation of membrane. When the membrane was formed in the posterior walls it was more dangerous because the lymphatics were more abundant there, and toxic products more readily found their way into the general circulation. When it was formed in larynx there was danger of suffocation from direct occlusion. While many think diphtheritic and croupous membrane identical, the fact that the membrane of croup never goes up from the larynx to the nares shows them to be different. The systemic symptoms of diphtheria observed before local manifestations shows this disease to depend upon systemic infection while croup is first local.

The special bacteria acting upon the tissues from toxic ptomaines which infect the system, causing paralysis of palatine and other muscles through damage to the nerve sheath, the axis cylinder not being affected. Also impairing the red corpuscles and the fibrin of the blood and producing degeneration of the coats of the vessels, allowing transudation of blood into the mucous membrane. The effects of these toxines are sometimes seen after apparent convalescence by maurosis, paralysis of tongue, etc., or if of heart producing a late but fatal heart failure. Some apparently simple cases produce fatal paralysis, while some severe cases show no paralytic conditions.

Dr. Stewart spoke of the treatment. Many methods of treatment had been advocated. His best success had come from using small doses of bichloride of mercury not in sufficient strength and quantity to act as a germicide but as a restorative tonic, with sub-sulphate of iron in solution deftly applied locally. It was very important to support by food stimulants and to maintain a quiet recumbent position to conserve the strength and avoid heart failure. He had found benzoic acid and borax an efficient germicide with no toxic effects. The kidneys should be carefully watched and no irritating medicines given, potash salts always proving harmful.

It was to be hoped that good would come from the investigations in use of antitoxine. He had noticed that an attack produced immunity.

Dr. McGuire, speaking of the use of antitoxine, said he considered it to be on trial and that a determination of its real value could not yet be made. He thought careful nourishing of the patient fully as important as drugs.

Dr. Munn gave his experience with intubation. During last four years he had used intubation for ten children of which four

recovered and six died, while in fifteen previous tracheotomies he had had fifteen deaths. Even in cases where intubation was not successful in saving life it was much less formidable than tracheotomy, and to be preferred. The most difficult question to decide was when to remove the tube. There could not be a fixed rule, but must be governed by circumstances, and in some cases repeated trials had to be made. The shortest time he had kept the tube in was three days the longest tweuty-one days.

GENERAL DISCUSSION.

Dr. Munn said he did not believe much in drug treatment. The disease being of germ origin must be first attacked locally, then sustain the patient with milk, eggs and alcoholic stimulants. He had used peroxide of hydrogen with advantage and found great benefit from frequent local use of pure hot water.

Dr. Munn, Sr., a visitor from Mobile, Ala., being asked to give his experience, said he had found benefit from peroxide of hydrogen and frequent cleansing with hot water and common salt, small doses of bichloride of mercury and free use of alcohol. He had given a girl of 16 years a pint of whisky a day with abundance of eggs, broth, etc., and had the satisfaction of seeing her make a good recovery. Thought it important to guard against exhaustion by recumbent position, etc.

Dr. Minney spoke of the importance of the physician guarding himself from infection by protecting face when doing anything about the throat of diphtheritic case. If any mucus did get into eye or elsewhere wash thoroughly with abundance of hot water.

Dr. Stewart reiterated the importance of feeding even to exclusion of drugs, if need be, together with cleanliness. Tracheotomy not admissable as a rule because of danger of reinfection. Intubation will rescue from impending death.

Dr. R. E. McVey said his way of treating diphtheria was to give 1-50 of a grain of bichloride every hour to a child one year old and nothing else. He considered sulphate of iron and benzoic acid had no beneficial effect on the false membrane. He objected to intubation as likely to push the membrane down and cause affection of the bronchi and death. The gravity of the disease was to be judged not by the quantity of membrane but by the poison in the system. If there is much fungi in the blood the patient will not recover.

Dr. Mitchell believed in a cleansing treatment locally and in supporting generally. Doubted the desirability of strong local applications. Considered the supporting treatment the essential one and that it should be commenced early, giving milk, eggs, whisky, etc. Should insist upon perfect quiet and rest in bed.

Dr. Learned, of Northampton, Mass., emphasized especially the importance of food and of relieving the heart by quiet and rest in bed until the system has regained its tone, and cited numerous instances in which hopeful convalescence had suddenly changed to a fatal issue upon sitting up too soon or otherwise overtaxing the heart.

On motion adjourned.

B. D. EASTMAN,
Secretary pro tem.

Society Meeting.

The Northwest Kansas Medical Association met in regular session in Dr. Page's office December 4, 1894, at 10 o'clock A.M.

Meeting was called to order by Dr. C. W. Winslow, president of the association.

Minutes of last meeting were read and approved.

Dr. N. W. Hayes, of Sharon Springs, and Dr. W. S. Harvey, of Salina, made application for membership. Said applicants passed the board of censors and on motion were elected members of the association.

The secretary presented a financial status of the association, showing a healthy financial condition.

This being the time for the annual election of officers for the ensuing year the following persons were placed in nomination.

In each case the rules were on motion suspended and the person named was elected by acclamation:

President—Dr. C. W. Winslow.

Vice-President—Dr. A. B. Jones.

Secretary and Treasurer—Dr. J. N. Page.

Board of Censors—Drs. A. B. Jones, F. O. Brainard and J. W. Tulles.

The above-named persons were then inducted into their respective offices.

The very interesting program was then taken up. The papers were excellent; the discussions were thorough and spirited, developing progressive medical science.

The time fixed upon for the next meeting of the association was the first Tuesday in February, 1895. The place for holding said meeting was left for the secretary to arrange; also to arrange a program for said meeting.

The following preamble and resolution was presented and adopted unanimously:

Whereas, Inasmuch as the State of Kansas is without a medical law and thus opens a field for all kinds of pretenders and impostors; therefore be it

Resolved, That this association favors a medical law similar to the Illinois law, or the law as reported by the convention held in Topeka in May, 1894, and that we recommend the incoming Legislature to pass a law of this character, except the limitation clause, which should be twenty years.

On motion the association adjourned.

J. N. PAGE, M.D.,
Secretary.

The Injection in Pneumonia and Typhoid Fever of Serum from Convalescents.

St. Louis Medical and Surgical Journal.

Hughes and Carter (*Therapeutic Gazette*) by following the line of experimentation suggested by the Klemperers and others, injected fourteen cases of pneumonia and three of typhoid fever with the serum obtained from patients convalescent from the same disease. All the cases from which the serum was obtained were carefully selected, and of unquestionable diagnosis. All the cases of pneumonia exhibited numbers of pneumococci in the sputum, the virulence of these organisms always being tested. It would be expected that cases treated in the same manner with serum from such cases as described, none of them being more than two weeks past the crises, would give results of comparative uniformity. Such, however, was not the case. Some showed success, others decided failure. Of ten selected cases only five can be claimed as distinctly proving any success due to the immune serum. In one case crisis followed the injection, but was probably not due to it. In three of the cases where no effect was produced, the failure is explained by the fact that one of them was a negro (in the negro's sputum the diplococci seem to be distinctly more virulent than in the sputum of a white man, the same probably being true of the lungs, where a larger dose of the antitoxic serum would be required); in another the pneumonia proved at autopsy to be of peculiar character, more resembling broncho- than lobar pneumonia; while the last case remained inexplicable.

The lack of action of the immune serum in certain cases is ascribed to—

1. A duality of diplococci causative of pneumonia.

2. Variation of the toxines.

The toxines, however, are constant concomitants of the growth of bacteria, and while under differing conditions of inherent qualities or environment, it is possible that the toxines are secreted in varying proportions, yet it is not likely that the average proportions would ever be so rudely disturbed as to lead to total failure of a neutralizing agent to act. The toxines must always be the same, therefore this hypothesis is not to be entertained.

3. The inadequacy of the antitoxic theory.

Neutralization of the toxines is not necessarily cure. Neutralization is merely a step in the production of immunity, and its causes must be sought deeper down. While, therefore, it cannot be doubted that immune serum

may have a most pronounced effect yet the irregularity of its action certainly suggests strongly that there are important factors other than the antipneumotoxine concerned in the production of the crisis, and the subsequent immunity—factors probably to be found in some condition of the cells rather than that of the blood serum.

From a therapeutic standpoint the results were disappointing. In the ten cases where perfect serum was used there were three deaths—about the ordinary death-rate from pneumonia. While disappointing, they are harmless, no bad effects following them.

Three cases of typhoid were tried, all recovering in an unusually short time, but as all the experiments were made upon very mild cases it is difficult to estimate the value of the serum-therapy.

Technique of Making Urethral Injections.

University Medical Magazine.

Guiard (*Annales des Maladies des Organes Genito-Urinaire*, June, 1894,) gives the results of his investigations concerning the urethra and its medication. The capacity of the urethra has been stated by Jarnin and Leprevoct to be from five to eight grammes, therefore it was held that urethral syringe should not hold more than five or six grammes, equal to about one and a half drachms. Later it was shown that posterior urethritis, particularly late in the disease, was far more frequent than formerly supposed. The author by experimenting on the living subject found that the urethra would always hold eight to ten grammes (two to two and a half fluid drachms), and more often twelve to fifteen grammes, and sometimes sixteen to seventeen. As the patient could tell when the sphincter was forced, this was avoided. These deep injections are only called for when definite symptoms have already demonstrated that the posterior region of the urethra is already affected.

In order to administer these deep injections, the author uses a syringe of twenty grammes (five drachms) capacity. When it is desired to overcome the sphincter, gentle pressure is made when the liquid will enter. In an experience of ten years he has never had any accidents, and only encountered one case in which the sphincter would not relax. It is better to give the injections when the patient is lying down than when he is standing up. The requirements of an effective injection is that it shall reach all the diseased parts. To do this a syringe of twenty grammes (five fluid drachms) capacity should be used, and the injection of its entire contents, if carefully done, is easy, and causes no inconvenience.

Treatment of Obstructive Jaundice.

American Journal of the Medical Sciences.

Dr. Dujardin-Beaumetz divides this condition into three classes with reference to its causation:

1. Obliteration from a calculus.
2. Obliteration from inflammation.
3. Obliteration from compression by tumors—the last belonging exclusively to the domain of surgery.

Hepatic calculi are more frequent in women, and it is probable that the corset is an important factor in their causation, which is further aided by the usual costo-superior type of respiration. In these cases systematic massage can do much in relieving the causative factor. Of the cholagogues, the watery alcoholic extracts, as podophyllin, cascarillin, and euonymin, and even sodium salicylate can be of service. To these should be added alkalies, as the waters of Vichy or Vals. For the treatment of hepatic colic two agents have recently been introduced—oil and glycerine. The oil has been the subject of numerous papers, and has achieved considerable success, but it possesses the marked inconvenience of being repugnant to the patients, and they swallow with considerable difficulty, at one time, the large amount (seven ounces) which is required. Glycerine in much smaller quantity, two and one-half to five drachms, appears to be

equally effective, either given clear or mixed with water. If the latter fails, then it is necessary to resort to anodyne suppositories, ether sprays over the hepatic region, hypodermatic injection of morphine and atropine, or even chloroform if the pain is acute. The obliteration from inflammatory action, which is usually the consequence of a duodenitis, requires different treatment. The duodenitis may be the result of an excessive alimentation in quality and quantity, or an incomplete mastication. It is necessary to regulate and increase the number of meals—for each meal, by giving rise to reflex phenomena, produces an increased flow of bile. Irritant foods must be avoided—those which increase the gastric acidity, especially alcohol and liquids containing it. In the advanced stages it is necessary to resort to intestinal antiseptics, of which the most in use are salol, benzonapthol, and the salicylates. Salol, usually the best of all, is here unavailing, because the bile being arrested, the contents of the duodenum are acid, and no decomposition of the drug occurs. To obtain antiseptic effects from benzonapthol, one drachm or more each day is required.

Of the salicylates, bismuth salicylate is the best. Since this colors the fæces it is difficult to arrive at a true understanding of the patient's condition; to avoid this inconvenience, asaprol has been substituted with advantage. Calomel is useful, because it is at the same time a purgative and an antiseptic; but it should be used with caution if the treatment is to be prolonged. Constipation is always an important symptom, and the use of Rubinat, Carabana, Villacabras, and even Carlsbad is advisable. Pancreatin may be useful in some cases.

Stomach Reefing.

Annals of Surgery.

This operation has been performed by Dr. Brandt for dilatation of the stomach. It is well known that the stomach becomes enlarged in cases of pyloric stenosis due to new growth, cicatricial contraction, or bands of adhesions. The rational treatment of this stomach trouble is the removal of the cause. This is accomplished by pylorus resection and excision of pyloric cicatrices, which has been so successfully done during the past few years. It sometimes happens, however, that after opening the abdomen no such a cause is found for the dilatation. If the wound is closed the laparotomy has been nothing more than an explorative operation, and the patient continues to suffer from the disease, the case being then regarded as a medical one and a subject for medical treatment. It has occurred to Brandt to treat these idiopathic cases by diminishing the size of the stomach by folding in its wall and suturing it through the serosa and muscularis. The patient upon whom he operated was a woman, 26 years of age. The gastric sound could be introduced until it struck the pubes and left Poupart's ligament.

Palpation revealed no tumor of the pyloric or other region, nor even an abnormal resistance. The patient was poorly nourished and greatly reduced in strength. She was treated medicinally by faradization and lavage of the stomach, with little improvement. After this treatment had been carried on for two months, Brandt made an opening into the abdomen parallel with the left costal arch, and explored the stomach and other abdominal contents. The pylorus was especially examined and nothing found. The organ was found enormously enlarged. He then proceeded to fold in the anterior wall and suture it by two rows of transverse sutures. The same was done on the posterior wall through holes torn through the great omentum. More than two hundred sutures were applied. The patient made an excellent recovery without any disturbance of digestion, and was able to leave her bed on the tenth day. Brandt has published this case as preliminary to a more exhaustive communication upon t[illegible]bject. The same operation has been described under the head of "gastrorapie" in the same periodical.

CODIENE is preferable to morphine for the relief of tickling coughs.

A Valuable Tonic Stimulant.

Fluid extract of kola is a valuable tonic stimulant, indicated in nervous depression. Unfortunately, however, it is acrid and bitter in taste, and taken in this form is decidedly unpalatable. Messrs. Frederick Stearns & Co., of Detroit, Mich., have, after considerable experimental investigation, devised a compound which they call "Stearn's Kola Cordial," which is one-fourth the strength of the fluid extract, each fluid ounce representing 120 grains of kola (Sterculia acuminata), but is free from the acrid bitterness of the drug. It possesses the agreeable odor and characteristic taste of true kola, and as a stimulant is prompt and active.

Physicians desiring to test this new product will be forwarded sufficient samples for clinical test on request.

Boracic Acid in Constipation.

Modern Medicine.

Excellent results may be obtained in many cases of constipation by the application of powdered boracic acid to the rectal mucous membrane. The writer's mode of application is as follows:

The ordinary rectal speculum having been introduced, half a dram of powdered boracic acid, either pure or mixed with an equal quantity of starch, is introduced by means of a small spatula; a soft mass of cotton is then grasped by a pair of dressing forceps and used as a plunger to carry the boracic acid into the bowel. Applications of this sort will often secure an evacuation of the bowels in the course of an hour or two. The best time for the application is before breakfast. The applications are also useful made in the afternoon or evening, especially in very chronic cases. Cases in which this method is found most useful are those in which constipation is due to loss of sensibility in the nerves of the rectum, in consequence of impairment of the normal reflexes by which nature calls for an evacuation of the bowels.

This remedy will be found very valuable in cases of leucorrhœa of the rectum. In cases in which irritability exists, the boracic acid must be mixed with twice the quantity of powdered starch, or an equal quantity of sub-carbonate of bismuth.

Epididymitis.

Therapeutic Gazette.

Rollet (*Medical Press and Circular*) holds that when epididymitis occurs as a complication of gonorrhœa, irrigation of the entire urethra should not be intermitted, since otherwise there is danger of the second testicle becoming involved. The best treatment, in his opinion is salicylate of sodium a drachm and a half daily, or tincture of pulsatilla, ten drops three times daily. The action of this agent is not as constant as that first named. Refrigeration is the best means of allaying pain. This is produced either by application of ice to the inflamed parts or by the spray of chloride of ethyl. The latter must be used with caution on account of the sensitiveness of skin of scrotum. Reclus recommends the application of compresses of warm water. Rollett has been using for some time back, with considerable satisfaction, guaiacol, which he applies by means of a brush over the surface daily; not more than 1 gramme, or 20 drops, is used at one time. The pain produced by the agent is slight and of short duration, while that appertaining to the malady disappears in about two hours and the temperature falls.

NUCLEIN contains a large percentage of phosphorus which may be separated by boiling with hydrochloric acid or in caustic alkali.

AN epidemic of diphtheria prevails in Yonkers, N. Y. On November 23 there were fifty-six cases in the city.